

I Claim:

- 5 1. A system for allocating a power budget between at least two communication services comprising:

at least one receiving-station being, in the aggregate, operable to receive at least two different communication services; and,

- 10 a transmitting-station for transmitting each of said services to at least one of said receiving-stations using a portion of said power budget, said portions being allocated according to an allocation criteria such that said power budget is substantially consumed.

2. The system according to claim 1 wherein said transmitting-station is a base station and said receiving-station is a subscriber station.

15 3. The system according to claim 2 having a plurality of subscriber stations and wherein one of said subscriber stations is operable to receive one of said services and another of said subscriber stations is operable to receive a second one of said services.

20 4. The system according to claim 2 having one subscriber station and wherein said subscriber station is operable to receive said at least two communication services.

5. The system according to claim 1 wherein said transmitting-station is a subscriber station and said receiving-station is a base station.

25 6. The system according to claims 1-5 wherein one of said services is a voice service.

7. The system according to claims 1-6 wherein one of said services is a data service.

30 8. The system according to claim 6 wherein said allocation criteria includes the allocation of power to said voice service for a subsequent time period based on the actual power consumed

by said voice service for a known time period.

9. The system according to claim 8 wherein said known time period is a current time period and said subsequent time period immediately follows said current time period.

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10. The system according to claims 8 and 9 wherein said time periods are from about one millisecond to about forty milliseconds.

11. The system according to claim 10 wherein said time periods are from about two
10 milliseconds to about thirty milliseconds.

12. The system according to claim 10 wherein said time periods are from about five milliseconds to about twenty milliseconds.

13. The system according to claim 10 wherein said time periods are from about seven
15 milliseconds to about fifteen milliseconds.

14. The system according to claim 10 wherein said time periods are about ten milliseconds.

15. The system according to claim 8 wherein said allocation criteria includes allocating a
20 remaining portion of said power budget to a data service for a subsequent time period based on the amount of power that was not allocated to said voice services.

16. The system according to claim 1 wherein said allocation criteria includes, for one of said
25 at least one communication services for a future time period, allocating an equivalent to an amount of power that was actually consumed by said communication service during a known time period and allocating a remainder of said power budget to a remainder of said communication services.

17. A method of allocating a power budget between communication services comprising the
30 steps of:

predicting power requirements for at least one communication service during a future time period; and,

allocating a portion of said power budget to each of said communication services based on said prediction.

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18 The method according to claim 17 wherein said prediction step includes determining actual power consumption for one of said at least one communication services during a current time period and said allocating step includes allocating a portion equal to said actual power consumption to said one of said at least one communication services and allocating a remaining portion to a remainder of said at least one communication services.

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19. A method of allocating a power budget between communication services comprising the steps of:

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for an initial time period, allocating said power budget between a plurality of communication services over a wireless link according to a predefined allocation;

for a current time period, establishing said communication services according to said allocation;

for said current time period, determining actual power consumption of at least one of said services;

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for a future time period, allocating at least an equivalent amount of power as said actual power consumption determined at step (iii) to said at least one of said services;

for said future time period, allocating a remaining amount of power to a remainder of said services, said remaining amount being an amount that was unallocated to said at least one of said services; and,

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repeating steps (ii) – (v) for said future time period.

20. A system for allocating a power budget between at least two services comprising:

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a first subscriber station operable to receive at least a voice service;

an additional subscriber station operable to receive at least a data service;

a base station for transmitting said voice service to said first subscriber-station using a portion of said power budget while transmitting said data service to said additional subscriber station using a remainder of said power budget, said portion allocated based on an actual amount of power consumed during a previous time period.

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21. A subscriber station comprising:

a receiver for a signaling channel, a voice channel and a data channel;

10 processing means connected to said receiver for adjusting demodulation and forward error correction rates of packets received over said voice channel and said data channel during successive time periods, said adjusting based on instructions received over said signaling channel that correspond to power allocations made by a base station transmitting said channels.

15 22. A base station comprising:

a gateway for receiving voice packets and data packets from a network;

20 a processing unit for allocating a portion of a power budget for transmitting voice packets during a current time period based on actual power consumed for transmitting voice packets during a previous time period, said processing unit for further allocating a remainder of said power budget for transmitting data packets during said current time period; and,
a transmitter for transmitting said packets to intended subscriber stations via a downlink according to said allocations.